UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF
ENVIRONMENTAL
CLEANUP

MEMORANDUM

DATE: April 14, 2016

SUBJECT: SW-8 Area Assessment and Groundwater Investigation Work Plan
Container Management Services Site
ECSI #4784
March 2016

FROM: Eva DeMaria, Remedial Project Manager

TO: Jim Orr, Project Manager
Oregon Department of Environmental Quality

Following are the United States Environmental Protection Agency's (EPA) comments on the March, 2016 document titled, SW-8 Area Assessment and Groundwater Investigation Work Plan, Container Management Services Site, 3000 NW St. Helens Road Portland, Oregon (Work Plan) prepared by SLR International Corporation, Inc. (SLR). Container Management Services (Site) is listed as ECSI #4784 and located within the City of Portland's Outfall Basin No. 18, which discharges to the Willamette River at approximate RM9W.

EPA understands the objectives of the Work Plan are to present a summary of operations at the Site, provide an overview of findings and conclusion from previous investigations, and describe the proposed incremental sampling program and groundwater monitoring activities. Pursuant to the request of the Oregon Department of Environmental Quality (DEQ), this work plan includes the use of incremental sampling for soil hot spots.

Primary Comments

1. The proposed soil sampling effort includes sample collection from 1-1.5 feet below ground surface (bgs), 2 to 2.5 feet bgs, and 3-3.5 feet bgs. This approach is based on the assumption that the top foot of soil will be excavated from the SW-8 area during proposed site paving efforts. However, EPA is not aware of any formal documentation of this proposed plan or concurrence from DEQ that this approach will be taken at the Site. Additionally, DEQ requested in their January 2016 comments that incremental samples be collected in surficial soils. EPA concurs with DEQ and recommends that characterization of the SW-8 Area should also include incremental sampling of surficial soils. If future action at the site does not include excavation and paving, the contaminant concentrations in surficial soils will be an important line of evidence in determining the likelihood that the Site is a source of contamination for the Willamette River.

2. Included in the list of analytes are volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). However, Appendix A contains processing procedures for soil samples that include air-drying samples on baking sheets. This processing procedure is inappropriate for VOCs and SVOCs due to volatilization, and does not conform to the Interstate Technology and Regulatory Council (ITRC) Incremental Sampling Methodology (ISM) February 2012 guidance. Sample collection and processing methods should be altered to accommodate VOC and SVOC samples.

3. The work plan includes no discussion of the site geology and hydrogeology. This hydrogeologic framework is needed to provide context for the soil and groundwater investigation. Additions to the existing work plan should include a description of the geologic units (*e.g.*, fill, alluvium, bedrock), expected thickness of the soil units, expected depth to groundwater, and direction of groundwater flow. This information is a prerequisite to developing data quality objectives (DQOs), and should be used to guide sample collection procedures and well installation depths.

Topics for Consideration

1. A more thorough discussion on the groundwater investigation should be provided. Additions to the existing work plan should include, at a minimum:

    a. The reasoning behind the proposed locations of the three monitoring wells should be discussed. According to Section 5.2 of the Joint Source Control Strategy (JSCS) guidance, groundwater screening should initially focus on the source areas and then areas downgradient from the source areas. The work plan should therefore provide a discussion of the source areas and groundwater flow direction that dictate appropriate monitoring well locations.
    b. Section 4.1 states that up to two soil samples will be collected from each well boring, but there is no discussion of soil sampling purpose, methods, and reporting. Additional information on the proposed soil sampling should be provided, including the criteria for determining the sample collection interval for each of the two soil samples.
    c. A more thorough discussion of groundwater sampling methods should be provided between *Section 4.1 Monitoring Well Installation* and *Section 4.2 Laboratory Analysis*. The current text on groundwater sampling in Section 4.4 is too brief, and is inappropriately located after the section on laboratory analysis.
    d. A table similar to the table presented in Appendix B should be provided for groundwater. This table should include a list of analytes, reporting limits, detection limits, Screening Level Values (SLVs), and Preliminary Remediation Goals (PRGs) from the Portland Harbor Feasibility Study Remedial Action Objectives (RAOs) 4 and 8.
    e. A more informative discussion of the selection of the "proper screen interval" and "appropriate filter pack material" should be provided in Section 4.1. It is unclear what

the decision metric the field geologist will use to select the screen interval. The monitoring well screens should be installed to screen the uppermost portion of the shallow water-bearing zone underlying the site.

f. The Quality Assurance Project Plan (QAPP) should be revised to include a discussion of quality assurance and quality control activities and DQOs for the groundwater investigation. Information is presented in the QAPP on the activities for the soil investigation, but the groundwater investigation is not mentioned.

2. EPA previously reviewed and commented (EPA August 13, 2015) on the June 2015 document entitled Stormwater Assessment and Additional Site Activities Report (Assessment Report), which presented the results from assessment activities at the Site. Based on information presented in the Work Plan, several of EPA's comments on the Assessment Report are unresolved. Key points identified in EPA's review that have not been addressed are as follows:

   a. Additional stormwater source control measures (SCMs) are recommended to reduce potential for contaminant migration to the Willamette River. This recommendation is based on multiple lines of evidence, including comparison of sediment and stormwater analytical results to JSCS SLVs and PRGs values developed for RAOs 3 and 7.
   b. Following implementation of additional SCMs, subsequent stormwater sampling would be necessary to support effectiveness evaluations. This stormwater sampling should comply with JSCS sampling guidance and storm event criteria to collect data that is sufficiently representative of stormwater discharges from the Site. The analytical results of this sampling should be compared to SLVs and PRGs to determine effectiveness of SCMs.

3. A more thorough discussion regarding the identification and delineation of decision units should be provided. This discussion should include information on previous analytical data within each decision unit. Additionally, the boundaries of each decision unit should be clarified. Specifically, Section 3.1 text states that SS-11 is within the north driveway (NDW) decision unit. However, Figure 4 shows SS-11 within the drum storage area (DSA) decision unit.

4. The proposed soil characterization method discussed in Section 3 is Incremental Sampling (IS), which is based on the draft guidance by the Alaska Department of Environmental Conservation. DEQ recommended in their January 2016 comments that IS methods should conform to the ITRC guidance on incremental sampling methodology. The ITRC guidance was specifically adopted for hazardous waste sites and potentially contaminated properties, and is the preferred guidance document for IS methods. Additionally, the procedure for selecting "random" sampling locations should be described in detail. Sample collection according to a uniform grid layout may be more appropriate, as described in the ITRC guidance document.

5. The introduction states that soil samples previously collected at SS-11, which is located in the DSA decision unit, contained concentrations of PCB Aroclor 1254 that were elevated enough to

be identified as Hot Spots by DEQ. Additionally, Tables 2 and 3 indicate that soil samples previously collected at SS-10 and SB-10, which are located in decision unit NDW, contained SLV exceedances for several metals and organochlorine pesticides. However, only decision unit DUA is identified for collection of a triplicate sample. Based on the elevated concentrations previously found in DSA and NDW, a triplicate sample should be considered in these decision units as well.

6. The analytical reporting limits presented in Appendix B are greater than SLVs for several contaminants, including COCs that were previously identified at the Site (Mercury, DDE, DDD, DDT, and Dieldrin). Whenever possible, analytical methods/laboratories should be chosen that have reporting limits that are lower than SLVs. As requested by DEQ, a discussion of any instances where the reporting limit is greater than the SLVs should be provided. This discussion should explain why a method with lower detection limits was not chosen.

Presentation of Information

1. Section 2.1 Site Location and General Characteristics: This section states that SW-8 includes paved and unpaved storage areas. The areas within SW-8 that are paved and unpaved should be indicated in the site figures, and referenced within the section on soil sampling methods.

2. Section 3.1 Incremental Sampling:

    a. Figure 3 is referenced in this section as showing the approximate boundaries of the 3 proposed decision units. However, the figure that actually shows that information is Figure 4.
    b. The North Driveway decision unit is incorrectly called out as "DUA" in the North Driveway subsection. This should be amended to "NDW" in the text.

3. Section 4.1 Monitoring Well Installation: The text within this section states that proposed monitoring well locations are shown in Figure 4. However, the figure that actually shows this information is Figure 5.

4. Section 4.4 Additional Sampling Events: Included in this section is information on sampling procedures. Instead of presenting this information in Section 4.4, a new section should be created between Section 4.1 and Section 4.2 that contains a more detailed discussion of sampling methods.

5. Figures 3 and 4: Previous sampling locations shown in Figure 3 should also be presented in Figure 4 to assist with referencing contaminant concentrations within the context of the proposed decision units.